

ReSOLVE Wireline Intervention Service Sets Bridge Plugs in Deepwater Gulf of Mexico

Real-time downhole measurements confirm set quality on conventional wireline in Tahiti field for Chevron

CHALLENGE

Set bridge plugs using conventional wireline at more than 28,000 ft MD in Chevron’s Tahiti field injector wells, Gulf of Mexico.

SOLUTION

Introduce ReSOLVE* instrumented wireline intervention service to the Gulf of Mexico and perform a downhole full-function test to confirm operation.

RESULTS

Verified set quality through real-time downhole measurements during setting operations of the deepest and second deepest plugs to date worldwide, at 28,239 ft MD and 28,133 ft MD, breaking the previous record by more than 5,000 ft.



Deepwater environment challenges

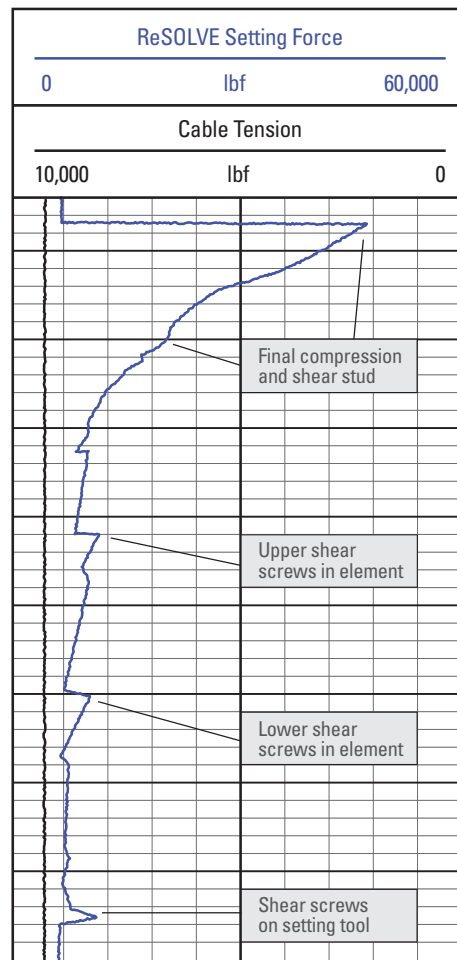
Hydrostatic limitations and force requirements for setting large devices in deepwater environments typically preclude deployment via conventional wireline. However, wireline provides for greater efficiency and functionality than coiled tubing and drillpipe. Chevron also wanted a deployment approach that would confirm that the plugs had been successfully set.

Nonexplosive setting tool

The Chevron Tahiti II Completions Team and Schlumberger collaborated to introduce ReSOLVE instrumented wireline service with integrated real-time monitoring, dynamic tool control, and verified downhole actuation to the Gulf of Mexico. Real-time force monitoring by the ReSOLVE system eliminated the need for deck testing, which is typically required to confirm the capability to shear the plug stud. Coordination with the Schlumberger product center determined the optimal surface-controlled set speed for high-quality plug placement by the ReSOLVE setting tool. A downhole function test was planned prior to initiating the set to confirm tool operation.

High-quality plug setting at record depths

Real-time downhole measurements during setting operations positively confirmed the high quality of the plug settings. The two plugs were successfully set by the ReSOLVE setting tool as the deepest worldwide at 28,239 ft MD in Tahiti IS001 and at 28,133 ft MD in Tahiti IS002—breaking the previous record by more than 5,000 ft.



The real-time measurements of plug setting in the Tahiti IS002 well confirm the success of the ReSOLVE setting tool operation.

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